

ROCKING POTENTIAL-WELL SWITCH AND MIXER

Abstract

- 5 Channelizing an applied current and applying a voltage to the channelized current enables switching of the applied current. According to the present invention, an applied current enters through a signal input carrier (12) and is channelized by a plurality of lateral potential wells created by a plurality of polysilicon fingers gates (14). A first voltage is applied to a first set of the plurality of polysilicon finger gates (32) and a second differential voltage is applied to a second set of the plurality of polysilicon finger gates (34), which results in a differential current flow among the lateral potential wells beneath the first and second sets of polysilicon fingers (32, 34), respectively. The differential current then flows to first and second signal output carriers (40, 42).
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